

## Remarks

### Formalities:

#### *Claim Status*

Claims 1-47 remain pending in the present application.

#### *Rejections*

Claims 1-47 stand rejected as failing to comply with the written description requirement as set forth in 35 U.S.C. § 112, first paragraph. Thus, the Office apparently suggests that the claims are not entitled to the filing dates of their parent applications. Since the subject application has not been afforded the benefit of such filing dates, the target patent, U.S. Patent No. 6,108,434 (hereafter “the Cox patent”), is used to render obvious claims 1-47. Applicant respectfully traverses these rejections.

### Specification Support:

#### *Compensating for Geometric Distortion*

The Cox patent attempts to solve a problem of geometric distortion such as scaling and other affine distortions in watermarking applications. See, e.g., the Cox patent at Col. 3, lines 5-28; Col. 5, lines 42-43; Col. 7, lines 61-63, and Col. 8, lines 9-12.

We note the comment on page 2 of the Office Action with some curiosity. The Office’s comment seems to suggest that the present application lacks disclosure of compensating for affine geometric distortions in watermarking or the problem of geometric distortion of “any” kind in watermarks. The Office’s written description rejections seem primarily focused on this alleged deficiency as well.

We respectfully submit that the subject application is replete with such disclosure.

Please consider, e.g., the discussion starting at page 76, under the heading “Method for Embedding Subliminal Registration Patterns into Images and other Signals.” In that section, Inventor Geoff Rhoads described systems and method to find orientation and scale of information, such as embedded signatures (see, e.g., page 77, lines 6-9). This section is detailed and has many accompanying figures.

We also respectfully direct the Office's attention to Appendix A, including digital watermarking software for counteracting geometric distortion (see, e.g., the specification at page 96, lines 9-10 and Appendix A).

We further respectfully direct the Office's attention to Appendix C, including geometric registration routines and block summing (see, e.g., Appendix C, pages 1, 9 and 11, etc.).

We even further respectfully direct the Office's attention to the "Rings to Knots" section starting on page 48.

Of course there are other areas of support in the application as well.

### *Claim Support Tables*

Since the Office's rejections are primarily centered on a lack of written description for compensating for geometric distortions, we have provided a few exemplary tables to show how the claims find support in the specification. (Of course, there are other specification support not specifically mentioned since they are not needed at this time. Thus, the listed passages should not be viewed as limiting.)

Table 1: Claim 1

<b>Claim Elements</b>	<b>Specification Support</b>
A method for extracting a watermark from compressed data containing a watermark comprising the steps of:	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.  See, e.g., page 35, lines 4-14; page 40, line 28 – page 41, line 14; and page 81, lines 30-31.
receiving compressed data containing a watermark in the form of n by n blocks of data subjected to affine geometric distortion;	See, e.g., page 35, lines 4-14; page 40, line 28 – page 41, line 14; page 81, lines 30-31; and Appendix C (e.g., pages 9-11).  See discussion of compensating for geometric distortion, e.g., at page 48,

	line 6 et seq.; page 76, line 17, et seq.; and Appendix A and Appendix C.
spatially translating the blocks according to a spatially varying translation to compensate for an assumed affine geometric distortion; and	See discussion of compensating for geometric distortion, e.g., at page 76, line 17, et seq.; and Appendix C.  See, e.g., page 97, lines 15-24.
extracting the watermark from the translated blocks of data.	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.

Table 2: Claim 25

Claim Elements	Specification Support
A method of extracting a watermark from compressed data containing a watermark comprising the steps of:	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.  See, e.g., page 35, lines 4-14; page 40, line 28 – page 41, line 14; and page 81, lines 30-31.
receiving compressed data containing a watermark in the form of blocks, which data has been subjected to affine geometric distortion;	See, e.g., page 35, lines 4-14; page 40, line 28 – page 41, line 14; and page 81, lines 30-31.  See discussion of compensating for geometric distortion, e.g., at page 48, line 6 et seq.; page 76, line 17, et seq.; and Appendix A and Appendix C.
storing said blocks in a set of predetermined groups of 8 by 8 blocks;	See the software appendices (e.g., Appendix C, pages 9-11) and related block buffering described therein.
converting the blocks into spatial domain;	See, e.g., page 97, lines 15-24.

spatially translating the spatial domain accumulated blocks to compensate for an assumed affine geometric distortion; and	See, e.g., page 97, lines 15-24.  See also discussion of compensating for geometric distortion, e.g., at page 76, line 17, et seq.; and Appendix C.
extracting the watermark from the translated blocks.	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.

Table 3: Claim 32

Claim Elements	Specification Support
A method for extracting a watermark from data containing a watermark comprising the steps of:	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.
receiving data containing a watermark, which data has been subjected to affine geometric distortion;	See discussion of compensating for geometric distortion, e.g., at page 48, line 6 et seq.; page 76, line 17, et seq.; and Appendix A and Appendix C.
storing said data as n by n blocks of data;	See the software appendices (e.g., Appendix C, pages 9-11) and related block buffering described therein.
spatially translating the blocks of data to compensate for affine geometric distortion;	See, e.g., page 97, lines 15-24.  See also discussion of compensating for geometric distortion, e.g., at page 76, line 17, et seq.; and Appendix C.
performing a transformation of said blocks of data; and	See, e.g., page 48, line 1 et seq.; page 97, lines 15-24; page 76, line 17, et seq., etc.
extracting the watermark from the translated blocks.	See, e.g., page 97, lines 15-24.  See also the many decoding sections, e.g., page 20, line 1 et seq.; page 39, et seq., etc.

*Request for Reconsideration*

We respectfully submit that the application provides ample disclosure of compensating for geometric distortions including affine distortions. We respectfully request reconsideration of the Office's current position.

Information Disclosure Statement:

An Information Disclosure Statement (IDS) is filed concurrently herewith. Consideration of the information disclosed therein is respectfully requested.

We also understand that all of the documents and information considered in our parent applications will also be considered according to, e.g., MPEP 609.

Request for Personal Interview:

Applicant respectfully requests a personal interview with the Examiner to discuss the claims in view of these remarks. Should the Examiner pick up this Response prior to the scheduling of an interview, the Examiner is respectfully requested to contact the undersigned to arrange a convenient time for the interview.

Conclusion:

The application is believed to be in condition for allowance. Nevertheless, the Examiner is respectfully invited to contact the undersigned at 503-469-4685 with any questions.

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Respectfully submitted,

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By



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